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Ser 1811WW/L2094

19 DEC 1991

Ms. Virginia Lasky  
Department of Toxic Substances Control  
700 Heinz Ave., Suite 200  
Berkeley, CA 94710

Subj: PROPOSED RELOCATION OF BACKGROUND BORINGS/WELLS FOR THE RI/FS  
NAS ALAMEDA

Dear Ms. Lasky:

The purpose of this letter is to propose that a change be made to the background sampling described in the Remedial Investigation/ Feasibility Study (RI/FS) Work Plan for the Naval Air Station (NAS) Alameda prepared for the Navy by Canonie Environmental Services, Inc. Several of the proposed background locations are in areas now known to have housed Navy industrial activities. As such, samples collected from these areas may not accurately reflect background concentrations of metals and organics in soils and groundwater. Therefore, we propose to relocate two of the borings/monitoring wells. Enclosure (1) provides the details and rationale for this proposal.

It is requested that you advise this office as to whether you concur with our proposed revision to the background sampling program. If you have any further questions regarding this matter, the point of contact is Mr. Wing Wong, Code 1811WW, (415) 244-2537.

Sincerely,

Original signed by:

LOUISE T. LEW  
Head, Installation Restoration Section

Encl:

(1) Proposed Relocation of Background Borings/Wells For the RI/FS, NAS Alameda

Copy to:

California Regional Water Quality Control Board (Attn: Lester Feldman)  
NAS Alameda (Attn: Randy Cate)  
Planning Research Corporation (Attn: Kirk Switzer)  
James M. Montgomery Consulting Engineers (Attn: Steve Newton)

Blind copy to:

1811, 1811WW, Admin Record (3 copies)  
WRITER: W. Wong/1181WW/X2537

## **PROPOSED RELOCATION OF BACKGROUND BORINGS/WELLS FOR THE RI/FS, NAS ALAMEDA**

The February 1990 work plan prepared by Canonie Environmental Services, Inc. (Canonie) proposed background soil and groundwater sampling at four locations at NAS Alameda, designated as BG1 through BG4 on Figure 1. From each boring, four samples were to be retained and analyzed for a variety of organic and inorganic constituents. Several of Canonie's proposed background locations are in areas of the base known to have housed Navy industrial activities. As such, samples collected from these areas may not accurately reflect background concentrations in soils and groundwater.

### **Proposed Background Sampling**

In the following discussions, the term boring should be used to mean a boring and a monitoring well. A total of four background borings (BG1 through BG4) were to be drilled as indicated in Figure 1. BG1 and BG2 are proposed to be relocated to the housing area where they are designated as New BG1 and New BG2. Relocating BG1 is recommended because there is a new pair of monitoring wells (designated as M101) installed near to the originally proposed BG1 location, hence, the proposal to relocate BG1. Background boring BG2 is proposed for relocation because its location was in the center of an industrial area. The two relocated borings, approximately 1500 feet apart in the residential area, would be more representative of background by being out of the industrial area. The housing area appears in historic aerial photos from 1947, and does not appear to have been used for other purposes since construction of NAS Alameda. Background borings, BG3 and BG4 will be drilled at their original locations.

Soil samples will be collected at the ground surface, at a depth of two feet, at a depth equal to the interface between fill material and native sediments, and at two feet below the fill/native sediment interface. All drilling and sampling will be conducted in accordance with the existing work plan and health and safety plan.

All wells will be constructed of 2-inch diameter polyvinyl chloride casing and screen, using methods detailed in the existing work plan. The wells will be screened across the first water table. Two rounds of groundwater samples will be collected from the wells and analyzed for the constituents described below.

## **Chemical Analyses**

Background soil samples will be analyzed for the constituents listed in Table 3.25.3 and 3.25.4. (Tables 3.25.1 and 3.25.2 are provided for informational purposes only) If the presence of total petroleum hydrocarbons (TPH) is identified in the background soil samples, the three samples with the highest TPH concentrations will be submitted for hydrocarbon characterization. Characterization will identify the molecular chain length of hydrocarbons present and will aid in determining the source of the compounds (i.e., type of fuel or oil). All analytical methods will be consistent with ongoing RI activities at NAS Alameda. A summary of the samples for each analysis is presented in Table 1.

- In addition to data collected from the housing area, data collected as part of the CTO
- \* No. 0107 field effort will be used in assessing background conditions. Metals results for soil samples collected from borings upgradient of the West Beach Landfill and the 1943-1956 Disposal Area will be considered as possible indications of background concentrations in fill material used throughout the base.

Quality assurance/quality control samples and procedures will be in accordance with established protocols in the approved work plans. All drill holes will be surveyed, and slug tests will be conducted in the wells. Soil cuttings and well development and purge water will be temporarily stored near the decontamination pad area.

## **Reporting**

Analytical results will be analyzed to determine statistically valid concentrations to be considered background. These background levels will then be compared to analytical results for samples collected at sites currently under investigation. Results of the comparison will be used to determine further actions at the sites and/or cleanup levels. Presentation of data and interpretations will be provided in the Data Summary and Remedial Investigation reports.

- \* CTO No. 0107 is the Solid Wastes Assessment Test (SWAT) field sampling for Site No. 1 - 1943-1956 Disposal Area and Site No.2 - West Beach Landfill.

TABLE 3.25.1

**SAMPLE TYPES AND ANALYSES FOR BACKGROUND SAMPLING ALONG  
EASTERN MARGINS OF 1943-56 DISPOSAL AREA AND  
WEST BEACH LANDFILL**

<u>Sample Matrix</u>	<u>Analysis</u>
<u>Soils</u>	
Split Spoon Samples	VOA BNA Extractables Pesticides/PCBs Metals Mercury Gross Alpha and Beta U226 and U228 Asbestos Dioxins/Furans Ethylene Dibromide TOC pH
<u>Ground Water</u>	VOA BNA Extractables Pesticides/PCBs Chlorinated Herbicides Organophosphorus Pesticides Oil and Grease Metals Mercury Gross Alpha and Beta U226 and U228 Asbestos COD Chloride Fluoride Cyanide Nitrate Hardness Alkalinity TDS TOC Acidity Specific Conductance Temperature pH Salinity Dissolved Oxygen General Minerals

**NOTE:**  
These analyses were performed on  
M 101 which was installed near  
the proposed BG 1. The proposed  
New BG 1 and New BG 2 are  
to be analysed for the modified  
list in Table 3.25.3.

Notes:

1. VOA indicates volatile organic analysis.
2. BNA indicates base, neutral, and acid.
3. COD indicates chemical oxygen demand.
4. TDS indicates total dissolved solids.
5. TOC indicates total organic carbon.

# Work Plan list for BG 2

TABLE 3.25.2

## SAMPLE TYPES AND ANALYSES FOR BACKGROUND SAMPLING ALONG AVENUE F

### Sample Matrix

### Analysis

#### Soils

Split Spoon  
Samples

VOA  
BNA Extractables  
Pesticides/PCBs  
Petroleum Hydrocarbons  
Metals  
Mercury  
Total Cyanides  
Ethylene Dibromide  
pH  
TOC

#### Ground Water

VOA  
BNA Extractables  
Metals  
Mercury  
General Minerals  
Ethylene Dibromide  
Pesticides/PCBs  
Herbicides  
Organophosphorus Pesticides  
Oil and Grease  
Total Cyanide  
Hardness  
Alkalinity  
TDS  
TOC  
pH  
Dissolved oxygen  
Acidity  
Specific Conductance

NOTE:  
SEE TABLE 3.25.3 for  
recommended list of analyses  
for New BG 2

#### Notes:

1. VOA indicates volatile organic analysis.
2. BNA indicates base, neutral, and acid.
3. TDS indicates total dissolved solids.
4. TOC indicates total organic carbon.

TABLE 3.25.3

SAMPLE TYPES AND ANALYSES FOR BACKGROUND SAMPLING ALONG  
EASTERN BOUNDARY OF NAS ALAMEDASample MatrixAnalysisSoilsSplit Spoon  
SamplesVOA  
BNA Extractables  
Pesticides/PCBs  
Petroleum Hydrocarbons  
Metals  
Mercury  
Total Cyanides  
Ethylene Dibromide  
pH  
TOCGround WaterVOA  
BNA Extractables  
Metals  
General Minerals  
Ethylene Dibromide  
Pesticides/PCBs  
Herbicides  
Organophosphorus Pesticides  
Oil and Grease  
Petroleum Hydrocarbons  
Mercury  
Total Cyanide  
Hardness  
Alkalinity  
TDS  
TOC  
pH  
Dissolved oxygen  
Acidity  
Specific Conductance

NOTE:  
This list of analyses is proposed  
for New BG 1, New BG 2, and  
BG 3.

Notes:

1. VOA indicates volatile organic analysis.
2. BNA indicates base, neutral, and acid.
3. TDS indicates total dissolved solids.
4. TOC indicates total organic carbon.
5. PCBs indicates polychlorinated biphenyls.

# Work Plan list for BG 4

TABLE 3.25.4

## SAMPLE TYPES AND ANALYSES FOR BACKGROUND SAMPLING UPGRADIENT OF OIL REFINERY SITE

### Sample Matrix

### Analysis

#### Soils

Split Spoon  
Samples

VOA  
BNA Extractables  
Pesticides/PCBs  
Petroleum Hydrocarbons  
Metals  
Total Cyanides  
Ethylene Dibromide  
pH  
TOC

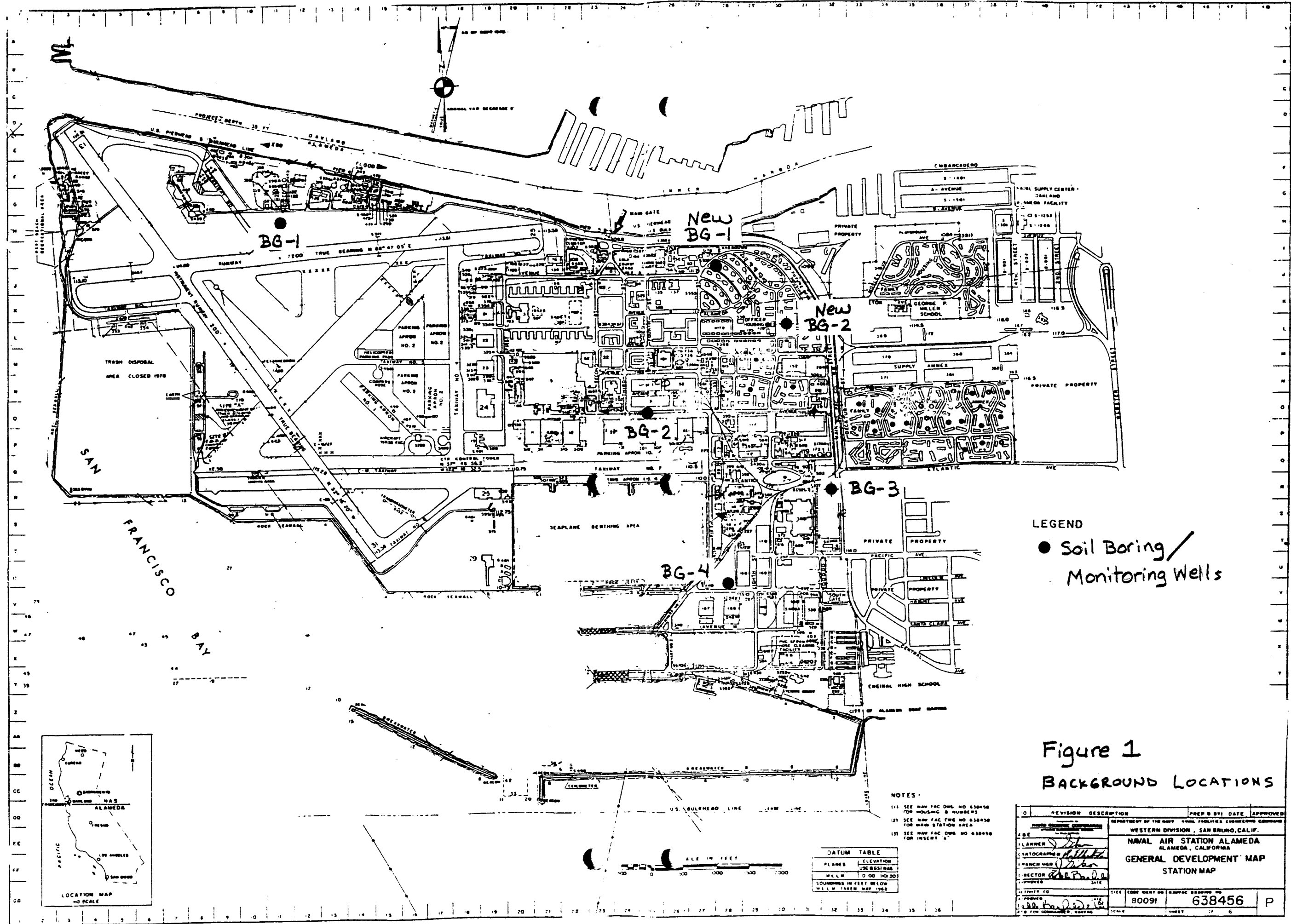
#### Ground Water

VOA  
BNA Extractables  
Metals  
General Minerals  
Ethylene Dibromide  
Pesticides/PCBs  
Herbicides  
Organophosphorus Pesticides  
Oil and Grease  
COD  
BOD  
Salinity  
Total Cyanide  
Hardness  
Alkalinity  
TDS  
TOC  
pH  
Dissolved oxygen  
Acidity  
Specific Conductance

NOTE :  
The list of analytes for BG 4  
remains unchanged.

### Notes:

1. VOA indicates volatile organic analysis.
2. BNA indicates base, neutral, and acid.
3. TDS indicates total dissolved solids.
4. TOC indicates total organic carbon.
5. BOD indicates biological oxygen demand.
6. COD indicates chemical oxygen demand.
7. PCBs indicates polychlorinated biphenyls.





N00236.000577  
ALAMEDA POINT  
SSIC NO. 5090.3

REVISED WORK PLAN FOR  
BACKGROUND SAMPLING

DATED 25 FEBRUARY 1992

IS ENTERED IN THE DATABASE AND FILED AT  
ADMINISTRATIVE RECORD NO. N00236.000586